CLAIMS

1. A communication apparatus running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising:

a first protocol implementation unit adapted to run a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one destination;

a second protocol implementation unit adapted to run a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node; wherein

a name mapping unit is adapted to receive a signaling target node name from said signaling source node and to map the signaling target node name into a destination.

2. The communication apparatus of claim 1, wherein said destination is a peer signaling association.

3. The communication apparatus of claim 1, wherein said destination is a transport address.

4. The communication apparatus of claim 1, wherein said name mapping unit is comprised in said second protocol implementation unit.

5. The communication apparatus of claim 2, wherein said name mapping unit comprises a mapping data interface unit adapted to distribute and/or receive signaling association attributes via said signaling control layer.

6. The communication apparatus of claim 3, wherein said name mapping unit comprises a mapping data interface unit adapted to distribute and/or receive transport address attributes via said signaling control layer.

7. The communication apparatus of claim 2, wherein said name mapping unit comprises a memory unit adapted to store signaling association attributes locally in the communication apparatus.

8. The communication apparatus of claim 3, wherein said name mapping unit comprises a memory unit adapted to store transport address attributes locally in the communication apparatus.

9. The communication apparatus of claim 3, wherein said transport address is an IP address.

10. The communication apparatus of claim 1, wherein the user adaptation layer is selected from a group comprising the signaling connection control part SCCP user adaptation layer SUA, the MTP3 user adaptation layer M3UA according to SIGTRAN protocol stacks, the ISDN user adaptation layer IUA and the V5.2 user adaptation layer.

11. A communication apparatus running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising:

a first protocol implementation unit adapted to run a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one destination;

a second protocol implementation unit adapted to run a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node; wherein

a name mapping unit is adapted to receive a signaling target node name from the signaling

source node and to map said signaling target node name into a signaling target; and

said mapping unit further comprises a target node name resolution unit adapted to map said signaling target into said destination according to a specified algorithm.

12. The communication apparatus of claim 11, wherein said destination is a peer signaling association.

13. The communication apparatus of claim 11, wherein said destination is a transport address.

14. The communication apparatus of claim 11, wherein said target node name resolution unit is of a client/server type responding to name translation requests from signaling source node clients in a local and/or remote manner.

15. The communication apparatus of claim 11, wherein said target node name resolution unit is further adapted to consider at least one criterion selected from a group comprising target node capability, target node load, and routing criteria association attributes to map said signaling target node name into said destination.

16. A communication apparatus running a protocol stack implementation for interworking between a signaling

source node and a signaling target node, comprising:

a first protocol implementation unit adapted to run a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one destination;

a second protocol implementation unit adapted to run a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node; wherein

a name mapping unit is adapted to receive a signaling target node name from the signaling source node and to map said signaling target node name into a destination, and

said name mapping unit further comprises a fault management unit adapted to detect an inoperative destination and to select another destination under the same signaling target node name.

17. The communication apparatus of claim 16, wherein said destination is a peer signaling association and said fault management unit is adapted to detect an inoperative peer signaling association and/or an inoperative signaling transport address in a peer signaling association and to select another

signaling transport address under said same signaling target node name.

18. The communication apparatus of claim 16, wherein said destination is a transport address and said fault management unit is to detect an inoperative transport address and to select another transport address under said same signaling target node name.

19. A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising the steps of:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one destination;

running a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node and mapping said signaling target node name into a destination.

20. The method of claim 19, wherein said destination is a peer signaling association.

21. The method of claim 19, wherein said destination is a transport address.

22. The method of claim 20, which comprises a step to check an availability of said peer signaling association and a step to trigger a build-up thereof.

23. The method of claim 19, which further comprises a step distributing and/or receiving destinations via said signaling control layer.

24. The method of claim 20, which further comprises the step of storing signaling association attributes locally at the signaling source node.

25. The method of claim 21, which further comprises the step of storing transport address attributes locally at the signaling source node.

26. The method of claim 21, wherein said transport address is an IP address.

27. The method of claim 19, wherein the user adaptation layer is selected from a group comprising the signaling connection control part SCCP user adaptation layer SUA, the MTP3 user adaptation layer M3UA according to SIGTRAN protocol stacks, the ISDN user

adaptation layer IUA, and the V5.2 user adaptation layer.

28. A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising the steps of:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one destination;

running a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node and mapping said signaling target node name into a destination; wherein

said mapping of said signaling target node name into said destination is carried out according to a specified algorithm.

29. The method of claim 28, wherein said destination is a peer signaling association.

30. The method of claim 28, wherein said destination is a transport address.

31. The method of claim 28, wherein said specified algorithm is a query responsive database algorithm.

32. The method of claim 28, wherein said specified algorithm is a table lookup algorithm.

33. A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising the steps of:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one destination;

running a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node and mapping said signaling target node name into a destination;

considering at least one criterion selected from a group comprising target node capability, target

node load, and routing criteria destination attributes when mapping said signaling target node name into said destination.

34. The method of claim 33, wherein said destination is a peer signaling association.

35. The method of claim 33, wherein said destination is a transport address.

36. A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising the steps of:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one destination;

running a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node and mapping said signaling target node name into a destination;

detecting an unreachable destination and selecting another destination under said same signaling target node name.

37. The method of claim 36, wherein said destination is a peer signaling association.

38. The method of claim 36, wherein said destination is a transport address.

39. The method of claim 37, wherein the step of detecting an unreachable destination relates to an unreachable peer signaling association and/or an unreachable signaling transport address in a peer signaling association and the step of selecting another destination under the same signaling target node name relates to selecting another peer signaling association under said same signaling target node name.

40. The method of claim 38, wherein the step of detecting an unreachable destination relates to an unreachable transport address and the step of selecting another destination under the same signaling target node name relates to selecting another transport address under said same signaling target node name.

41. A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising the steps:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one destination;

running a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node and mapping said signaling target node name into a destination;

maintaining a data base storing name spaces in relation to destinations and related attributes and updating said data base.

42. The method of claim 41, wherein said destination is a peer signaling association.

43. The method of claim 42, wherein said destination is a transport address.

44. The method of claim 41, wherein said updating of said data base at least comprises one step selected

from a group comprising signaling node registration, mapping node registration, signaling node deregistration, mapping node deregistration, and signaling node routing policy change registration.

45. Method of exchanging signaling messages between a signaling source node and a signaling target node using a name based addressing scheme, comprising the steps of:

identifying a destination in relation to a node name of the signaling target node;

exchanging signaling messages over a packet transport network from the signaling source node to the signaling target node using the name based addressing scheme.

46. The method of claim 45, wherein said destination is a peer signaling association.

47. The method of claim 45, wherein said destination is a transport address.

48. The method of claim 45, further comprising the steps of:

identifying destination in relation to a node name of the signaling source node;

exchanging signaling messages over said packet transport network from the signaling target node to the signaling source node using the name based addressing scheme.

49. The method of claim 48, wherein said destination is a peer signaling association.

50. The method of claim 48, wherein said destination is a transport address.

51. Method of claim 45, further comprising the step storing a relation between a destination and a node name before exchange of signaling messages for subsequent name resolution.

52. Method of claim 45, further comprising the step of grouping a plurality of destinations onto a node name.

53. Method of claim 48, further comprising the step exchanging call messages on the basis of the name based addressing scheme.

54. Method of claim 45, further comprising the step of establishing an initializing communication link from the signaling source node to the signaling target node using a predetermined target node address.

55. Method of claim 54, wherein initializing of the communication link is established using a stream control transmission protocol layer and exchanging signaling messages is achieved using a user adaptation layer.

56. Method of claim 54, wherein initializing of the communication link and exchanging of signaling messages is achieved using a stream control transmission protocol layer.

57. A computer program product directly loadable into the internal memory of a communication device, comprising software code portions for performing the steps of claim 19 when the product is run on a processor of the communication device.

58. A communication apparatus running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising:

a first protocol implementation unit adapted to run a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one signaling association;

a second protocol implementation unit adapted to run a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node; wherein

a name mapping unit is adapted to receive a signaling target node name from said signaling source node and to map the signaling target node name into a peer signaling association.

59. The communication apparatus of claim 58, wherein said name mapping unit is comprised in said second protocol implementation unit.

60. The communication apparatus of claim 58, wherein said name mapping unit comprises a mapping data interface unit adapted to distribute and/or receive signaling association attributes via said signaling control layer.

61. The communication apparatus of claim 58, wherein said name mapping unit comprises a memory unit adapted to store signaling association attributes locally in the communication apparatus.

62. A communication apparatus running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising:

a first protocol implementation unit adapted to run a signaling control layer (SCTP) of the protocol stack on top of a packet transfer network (IP) for exchange of signaling data via at least one signaling association;

a second protocol implementation unit adapted to run a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node; wherein

a name mapping unit is adapted to receive a signaling target node name from the signaling source node and to map said signaling target node name into a peer signaling association; and

said mapping unit further comprises a target node name resolution unit adapted to map a destination name into said peer signaling association according to a specified algorithm.

63. The communication apparatus of claim 62, wherein said target node name resolution unit is of a client/server type responding to name translation requests from signaling source node clients in a local and/or remote manner.

64. The communication apparatus of claim 62, wherein said target node name resolution unit is further adapted to consider at least one criterion selected from a group comprising target node capability, target node load, and routing criteria association attributes to map said signaling target node name into said peer signaling association.

65. A communication apparatus running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising:

a first protocol implementation unit adapted to run a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one signaling association;

a second protocol implementation unit adapted to run a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node; wherein

a name mapping unit is adapted to receive a signaling target node name from the signaling source node and to map said signaling target node name into a peer signaling association, and

said name mapping unit further comprises a fault management unit adapted to detect an inoperative peer signaling association and/or an inoperative signaling transport address in a peer signaling association and to select another signaling transport address under said same signaling target node name.

66. A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising the steps of:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one signaling association;

running a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node and mapping said signaling target node name into a peer signaling association.

67. The method of claim 66, which comprises a step to check an availability of said peer signaling association and triggering a build-up thereof.

68. The method of claim 66, which further comprises a step distributing and/or receiving signaling association attributes via said signaling control layer.

69. The method of claim 66, which further comprises the step of storing signaling association attributes locally at the signaling source node.

70. A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising the steps of:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one signaling association;

running a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node and mapping said signaling target node name into a peer signaling association; wherein

said mapping of said signaling target node name into said peer signaling association is carried out according to a specified algorithm.

71. The method of claim 70, wherein said specified algorithm is a query responsive database algorithm.

72. The method of claim 70, wherein said specified algorithm is a table lookup algorithm.

73. A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising the steps of:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one signaling association;

running a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node and mapping said signaling target node name into a peer signaling association;

considering at least one criterion selected from a group comprising target node capability, target node load, and routing criteria association attributes when mapping said signaling target node name into said peer signaling association.

74. A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising the steps of:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one signaling association;

running a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node and mapping said signaling target node name into a peer signaling association;

detecting an unreachable peer signaling association and/or an unreachable signaling transport address in a peer signaling association and selecting another signaling transport address under said same signaling target node name.

75. A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising the steps:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one signaling association;

running a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node and mapping said signaling target node name into a peer signaling association;

maintaining a data base storing name spaces and/or association attributes and updating said data base.

76. The method of claim 75, wherein said updating of said data base at least comprises one step selected from a group comprising signaling node registration, mapping node registration, signaling node deregistration, mapping node deregistration, and signaling node routing policy change registration.

77. A computer program product directly loadable into the internal memory of a communication device, comprising software code portions for performing the steps of claim 66 when the product is run on a processor of the communication device.